

Two Rivers -- The Mississippi and Missouri

Geological Survey and Resource Assessment Division fact sheet number 21

6/2002

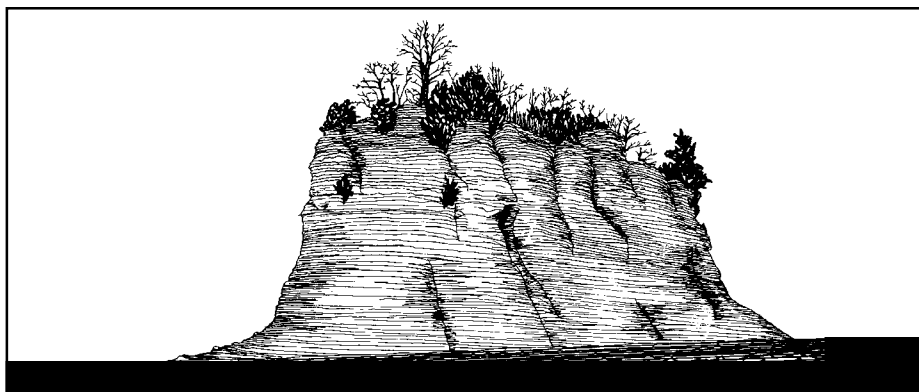
"... A heap more goes down the Mississippi than ever comes up it again and that sets you a-thinkin'," says Charles Steward in his book, *Partners of Providence*.

The first Europeans to see the Mississippi were probably De Soto and his men in 1541. History began to turn into legend by the time Lewis and Clark ascended both rivers to record the savage and luxuriant charm of the surrounding countryside. A poignant contribution to the legend of the Mississippi was made when Jolliet and Marquette were led to the mouth of the "world's greatest tributary," the Missouri River by two Miami Indians. The Missouri River from St. Louis to far northwest into the Dakotas became the thread which bound the *Epic of America* (by John G. Neihardt) into one great story of fur traders, explorers, miners, and mountain men. Hundreds of men joined Ren Ashley and Stempy Henry in St. Louis in 1822 when St. Louis was becoming the *grande dame* of the Midwest and the cry to youth was, "Go West, young man. Go West!" (*Treasury of Mississippi Folklore*, B.A. Botkin).

The two rivers share many similarities:

- 1) Both have a lot of silt in them that is supported by the swirling currents.
- 2) Both rivers constantly change or modify their crooked paths and sand and gravel bars appear and disappear.
- 3) Both rivers are navigable and serve the entire Midwest with a water route for shipping large quantities of raw materials and products.
- 4) The two rivers have become keys to the leisure time habits of thousands of people for fishing, sailing, water skiing, motorboat racing, cruising, and swimming.
- 5) And the two rivers have unfortunately, provided their bordering states with a giant sewage disposal system, now a major concern in studies to answer the question, "How can we produce safe, usable water from sewage?"

Of the geology and geography of the two river systems, endless theories have been set forth and a continuous scientific discussion threads its way through modern literature. Unusual geologic features are common place on the Missouri and Mississippi rivers. Oxbow lakes, which are large, crescent-shaped bodies of water that were left in low-lying areas when the river changed course across meander loops, decorate the flat flood plains along either side of both rivers. There are also scenic spots where the rivers left tall pinnacles of rock standing like towers. Castle Rock, on the Mississippi is an example of this unique occurrence. Tavern Rock, on the Missouri, is a typical bluff. It is often noted in the history and folklore of the rivers and was visited by Lewis and Clark.



PUB000662



The flood plains of the Missouri and Mississippi rivers cover hundreds of square miles in this state and provide citizens with rich, tillable acreage for producing Missouri's excellent agricultural products. A second feature of the flood plains is the tremendous amount of good quality groundwater which can be drawn from shallow wells in the alluvial deposits along the rivers. The river water seeps deep into the gravel and sediment beds and is pumped for use after this very efficient filtering process removes most of the river's impurities. Some of these shallow wells produce as much as 2,000 gallons of water per minute.

High loess bluffs (yellowish gray loam; silt), deep limestone gorges, "lost" hills and cut-off meanders, and millions of tons of sand and gravel, which are deposited along the almost shoreless banks, entice the scientist to a more thorough study of the origin and development of these majestic waterways.

Industry and the rivers are comparable to the chicken and egg story in that for nearly 300 years now one has gradually become dependent upon the other. Fur trade gave St. Louis its start in 1700. Today, barges laden with coal, sand and gravel, ore, cement, marble, clay products, heavy machinery, equipment, ammunition, cars, trucks, food, and household items float three abreast and sometimes four deep up and down the Missouri and Mississippi. To help maintain this veritable six-lane liquid highway system, the U.S. Army Corps of Engineers works diligently at regulating and stabilizing the channels. For example, a nine-foot channel is controlled by dredging, leveeing, and use of piers on the Missouri River from St. Louis to Kansas City. "Traffic lights," signs, buoys, and markers outline the safely navigable "lanes" up and down the river.

Both rivers also share their majesty in destructiveness as they jam with ice in the winter and swell to flood stage in the spring and fall. However, some of the danger of flooding is eliminated by the levee, lock, and dam systems strategically located along both rivers.

The Missouri and Mississippi rivers are the two features in the state which have given rise to thousands of volumes of lore and literature about "life along the river" in the United States. In 1844, a New York reporter wrote, "There ain't nobody but Uncle Sam as could afford such a river as that! Where in airt so much water comes from I can't think!" The health and livegiving properties of the two rivers are subject to numerous jokes.

In *Life on the Mississippi* Mark Twain said: "A man that drinks it could grow corn in his stomach if he wanted to..." And, in *Big River* to Cross Captain Barney said: "Keeps my health a goin' good. It's this here filterin' ... causes all the sickness now a days ... takes all the strength out of it."

Changes in the details regarding life and work along the river system since Mark Twain's day is keenly exemplified in the very town where Mark Twain himself lived--Hannibal, Missouri. Factory whistles have replaced the belch of smoke and steam from the old paddle boats. Very few dock hands or laborers shuffle along the broad stone wharf at the water's edge. Instead, tourists launch speed boats and youngsters test their tenacity on a pair of water skis. With both rail and river traffic to boost its economy, the quaint little town has become a busy, growing industrial center of mills, factories, plants, and stockyards, like those which characterize contemporary river towns such as St. Joseph, Boonville and Jefferson City. Along the Mississippi and Missouri traffic is heavy. At night the lights of the cities are reflected in myriads of colored specks and that familiar call, "Mark Twain," can still be heard as boat hands take soundings in the murky waters.

